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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/701,079

11/05/2003

Stefan Diesner

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12/02/2004

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EXAMINER

MILLER, PATRICK L

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/701,079

Applicant(s)

DIESNER ET AL.

Examiner

Patrick Miller

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the co. response address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11052003</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 2, 4, 5 and 9-12 are objected to because of the following informalities: See bullets below. Appropriate correction is required.
 - Claim 2 recites, “as a result of ones of said...” (l. 15). Change “ones” to “one.”
 - Claim 4 recites, “the power breaker.” Lack of antecedent basis for this term. Term not cited in claim 2, but rather, this claim is recited in claim 1.
 - Claim 5 recites, “one of said power supply lines.” Lack of antecedent basis for this term.
 - Claim 9 recites, “a reverse direction.” Amend to show the direction to what “reverse” is related. E.g. a reverse direction with respect to the one direction.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5, 6, 9, 11, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Weinbrenner (6,774,600).
 - With respect to claims 1 and 9, Weinbrenner discloses a device for actuating a plurality of motors, said device comprising: a plurality of output stages (Fig. 3, #outputs from

#319 to power breakers, #s 302-307); a control circuit for actuating the output stages, and wherein the output stages are connected to a plurality of electric motors (Fig. 3, #319); the output stages are each additionally connected to one further electric motor by the control circuit (Fig. 3, e.g. #302 to #202 and 204); the control circuit actuates each output stage, and each output stage actuates one of the motors (col. 3, ll. 38-47); the outputs are interconnected to one another in a matrix configuration (col. 3, ll. 47-67); two output stages are connected to power breakers (Fig. 3, first output from #319 to power breaker #302, second output from #319 to power breaker #303), and connect to one of a first and a second potential so that an actuated motor and the additional motor can be operated in both directions (col. 1, ll. 22-24; each power breaker connected to power and ground).

- With respect to claims 5 and 12, the control unit controls the system so one power breaker is connected to low potential and a second power breaker is connected to a high potential (col. 4, ll. 13-34).
- With respect to claim 6, the output stages are provided with an actuating interface (Fig. 3, #313), and the output stages are each embodied as a standardized module so that each module can be used at a different position in the matrix-like structure (Fig. 3, output of #319 and elements #302-307 are standard outputs from a controller and identical drivers, thus each output stage is identical and therefore standardized).
- With respect to claim 11, the power breakers switch off current flow in both directions (col. 4, ll. 31-34; see also col. 3, ll. 41-47; since current is “two-way,” this means that current flow is off in a reverse direction when the motor operating in a forward direction, and vice versa).

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3. Claims 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Pardo et al (6,008,597).

- With respect to claim 2, Pardo et al disclose a device for actuating a plurality of motors, the device comprising: a plurality of output stages (Fig. 8, output from motor drivers) and a control circuit for actuating the output stages, where the output stages are connected to a plurality of electric motor (Fig. 8, current sensing controls output stages); each motor is arranged between two power supply lines, where one of the motors is connected to a common power supply line, and another power supply connection is connected to the other power supply line (col. 5, ll. 43-57; 24 volt common line and ground via motor drivers and switches to each motor); each of the power supply lines is connected to two of the plurality of output stages (Fig 8, each power line from the drivers is supplied to two motors and each “ground” line from the drivers is supplied to two motors), where the first output stage is connected to a first potential, and the second output stage is connected to a second potential (Fig. 8, “top” drivers supply power and “bottom” drivers supply ground path); and a circuit breaker provided between each of the electric motors and a respective assigned one of the two power supply lines in order to prevent parallel current as a result of one of the electric motors which are not actuated (Fig. 10; see also col. 5, ll. 34-57; when jam occurs, current sensor acts as a circuit breaker and inhibits power to the drivers and motors).
- With respect to claim 4, as best understood by the Examiner, the circuit breaker switches of the flow of current in both directions of the power supply lines (col. 5, ll. 36-38).

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinbrenner as applied to claims 1 and 9 above, and further in view of Verduin et al (GB 2163884 A).

- Weinbrenner does not disclose circuit breakers that supply power to the electric motor if the difference in potentials between the two power lines is greater than a threshold voltage.
- Verduin et al disclose a diode coupled to each motor in the “matrix” configuration (Fig. 2A, diodes directly connected to each motor). The diode conducts when the amount of current flowing through diode is above a threshold level, which the Examiner has interpreted to be analogous to the difference in potentials at each side is greater than threshold amount, where one side is connected to a source driver and the other side is connected to a sink driver (both power lines). The motivation to implement a diode for each motor is to prevent stray voltages from creating a difference in potential and operating the motor inadvertently.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the device of Weinbrenner with a diode (circuit breaker) that allows power to flow to the motor when a difference of potential is above a threshold value, thereby providing the advantage of preventing the motor from inadvertently energizing, as taught by Verduin et al.

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5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weinbrenner as applied to claim 1 above, and further in view of Pardo et al (6,008,597).

- Weinbrenner does not disclose providing a current measuring circuit, and the control circuit executes an error routine when there is excess current.
- Pardo et al disclose a current measuring circuit and the control circuit initiates an error routine when there is excess current (col. 5, ll. 32-38; routine is shutting off motor). The motivation to implement a current measuring circuit is to detect when a motor is jammed. This provides the advantage of preventing damage to the queue.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to implement a current measuring circuit and an error routine performed by the control circuit of Weinbrenner, thereby providing the advantage of preventing damage to the motors and system, as taught by Pardo et al.

Allowable Subject Matter

6. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- With respect to claim 8, the Prior Art does not disclose a device with the limitations of claim 1, that also runs an error routine and switches over to another output stage of the matrix to operate the motor when one of the output stages fails.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 571-272-2070. The examiner can normally be reached on M-F, 8:30-5:30.

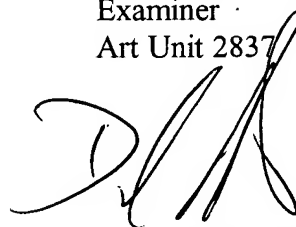
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2800 ext 41. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick Miller
Examiner
Art Unit 2837



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SUPERVISORY PATENT EXAMINER
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pm
November 15, 2004